SECTION II.
Analysis of MBE/WBE Availability

Summary

BBC developed a database of firms available to perform specific types of transportation construction and engineering work in different regions of California. Starting with a list of California business establishments identified by Dun & Bradstreet, the BBC study team successfully completed telephone interviews with 18,675 firms concerning their qualifications and interest in Caltrans and local government projects.

Among firms surveyed by BBC for the availability analysis, 3,398 indicated that they perform work related to transportation construction and engineering, were qualified and interested in future work with Caltrans or local governments, had made past attempts to obtain this work and identified the regions in which they work. In BBC's analysis, this subset of firms is "available" for specific types and locations of future prime contract or subcontract work in federally-funded contracts. Among these firms, 32 percent reported that they were minority- or women-owned. Fewer than one-in-four minority- and women-owned firms available for transportation construction and engineering work were DBE certified. Many firms have not actively pursued DBE certification.

BBC created a statistical model to examine the share of total contract dollars MBEs and WBEs would obtain if each available minority- or woman-owned firm from the telephone survey had the same chance of obtaining a specific prime contract or subcontract as a majority-owned firm available for the same types of work. To perform this analysis, BBC developed a database of more than 10,000 prime contracts and subcontracts for Caltrans and local agency projects from 2002 through 2006. The model indicates that MBEs and WBEs would receive 17.9 percent of prime contract and subcontract dollars for federally-funded transportation construction and engineering contracts.

The balance of Section II describes research concerning availability of minority- and women-owned firms. Appendix C (Availability Survey) provides additional information on the survey effort.

Measuring MBE/WBE Availability

The BBC study team implemented a strategy for measuring MBE/WBE availability that was consistent with the USDOT's and federal courts' guidance for availability studies.

Determining relevant geographic market area. The study team first confirmed that California is the relevant geographic market area for Caltrans' construction and engineering services contracting. For 2002 through 2006, 95 percent of the dollars going to firms working as prime contractors or subcontractors on Caltrans transportation construction and engineering projects went to firms with locations in California.

Survey of California businesses potentially related to transportation construction and engineering. The study team contacted business establishments in California that had been identified by Dun & Bradstreet (D&B) to be in primary lines of work potentially related to transportation construction and engineering. The study team first purchased all listings of business establishments in California reported by D&B to have a primary line of work in the Standard Industrial Classification (SIC) codes BBC determined to be most pertinent to Caltrans transportation construction and engineering contracts (49,276 business listings).

The study team attempted to contact each of these potential businesses. The telephone interviews were conducted in the fall of 2006 by Customer Research International (CRI), a telephone survey research firm in Texas that has substantial expertise conducting these types of surveys. (BBC completed the survey effort by faxing and e-mailing surveys to firms that had requested receiving hard copy versions of the survey.)

- These telephone interviews began by confirming that CRI had reached the correct business.
- CRI interviewers then asked the firm owner or manager, "First, I want to confirm that your firm does work related to transportation construction, maintenance or design. Is this correct?" Interviews continued with firms responding "yes" to this question. Interviewees were told that this included trying to sell this work, not just successfully performing this work.
- CRI interviewers also confirmed or refined the D&B information concerning primary type of work performed by the firm.
- The survey collected information on the geographic scope of that work within the state, specific interest in Caltrans work, and past bidding and performance of transportation

construction and engineering contracts for Caltrans, local governments and the private sector.

- Firms were asked to identify the largest contract or subcontract performed or bid on in the past five years.
- Interviewers asked firms whether they were qualified and interested in work for Caltrans and/or local governments. Separate questions asked about qualifications and interest in this work as a prime contractor and as a subcontractor.
- The survey asked firms whether they were owned and controlled by minorities and/or women.
- Other firm characteristics were collected as well (see Appendix C).

Strengths of a "custom census" approach. The study team determined that a telephone survey of firms in California was a preferable approach to analyzing availability than relying on: (a) firm counts from the DBE directory and U.S. Census data; (b) pre-qualification lists, which is not a standard Caltrans practice; or (c) a bidders list, which has not yet been successfully implemented by Caltrans.

"Custom census" approaches to availability that begin with D&B data have been reviewed positively by federal courts. The study team's methodology for analyzing MBE/WBE availability takes the previous custom census approach as a starting point and added several layers of additional screening when determining firms available for transportation construction and engineering work.

Survey performance. The availability analysis conducted for Caltrans represents the largest survey to date of potentially available firms conducted in any state or local government disparity study known to the study team. The study team attempted to complete surveys with all firms in California reported by D&B to have a primary line of business within transportation construction and engineering-related SIC codes. (There was no "sampling" from the sample frame in preparing the list of firms to be surveyed.)

The study team obtained completed surveys from 18,675 business establishments, or about 47 percent of the business establishments with valid phone listings, which is relatively high for this type of research. Of the 18,675 firms successfully interviewed, 3,398 were for-profit firms reporting that they:

- Perform work related to transportation construction, maintenance or design (in the lines of business pertinent to

this study and after combining multiple responses for firms with more than one office);

- Are qualified and interested in performing transportation-related work for Caltrans and/or local governments in the future, as a prime contractor and/or subcontractor (or supplier or trucker);
- Have attempted to obtain this work in the past (in the public or private sector); and
- Indicated the regions of the state in which they can perform work.

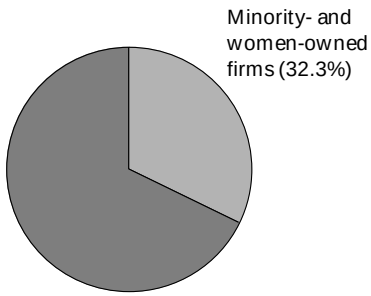
Preliminary Results of the Availability Analysis

In the 2006 Availability Survey, 3,398 firms in the transportation construction and engineering industry reported qualifications and interest in future Caltrans and/or local government transportation work and had performed or bid on such work in the past. Of these firms, 32 percent reported that they were minority- or women-owned (see Figure II-1).

Figure II-1.
MBE/WBEs as a share of firms available for future transportation contracting work

Note:
Unweighted. Preliminary results, subject to refinement.

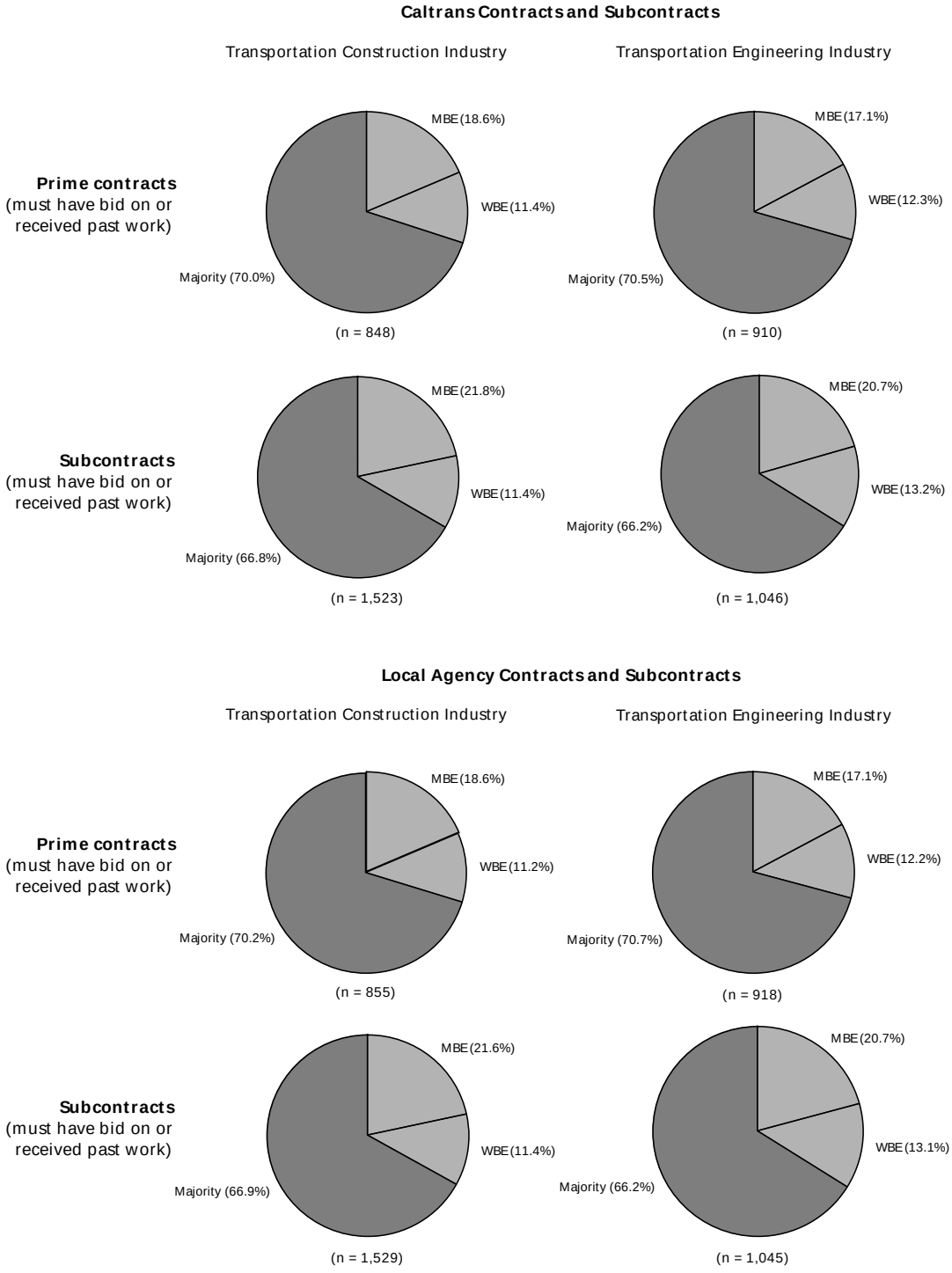
Source:
BBC Research and Consulting from 2006 Availability Survey.



Firms available by location. Relative MBE/WBE availability does not vary considerably between districts. This is because firms located in one district often work across a number of districts.

Firms available by sector and work role. BBC also examined MBE/WBE availability by sector and work role and by discipline. Figure II-2 on the following page shows the shares of minority- and women-owned firms available within these sub-categories of available firms.

Figure II-2.
MBEs/WBEs as a percentage of transportation construction and engineering industry firms qualified and interested in transportation work



Note: WBE is white woman-owned firms.
Source: BBC Research and Consulting from 2006 Availability Survey.

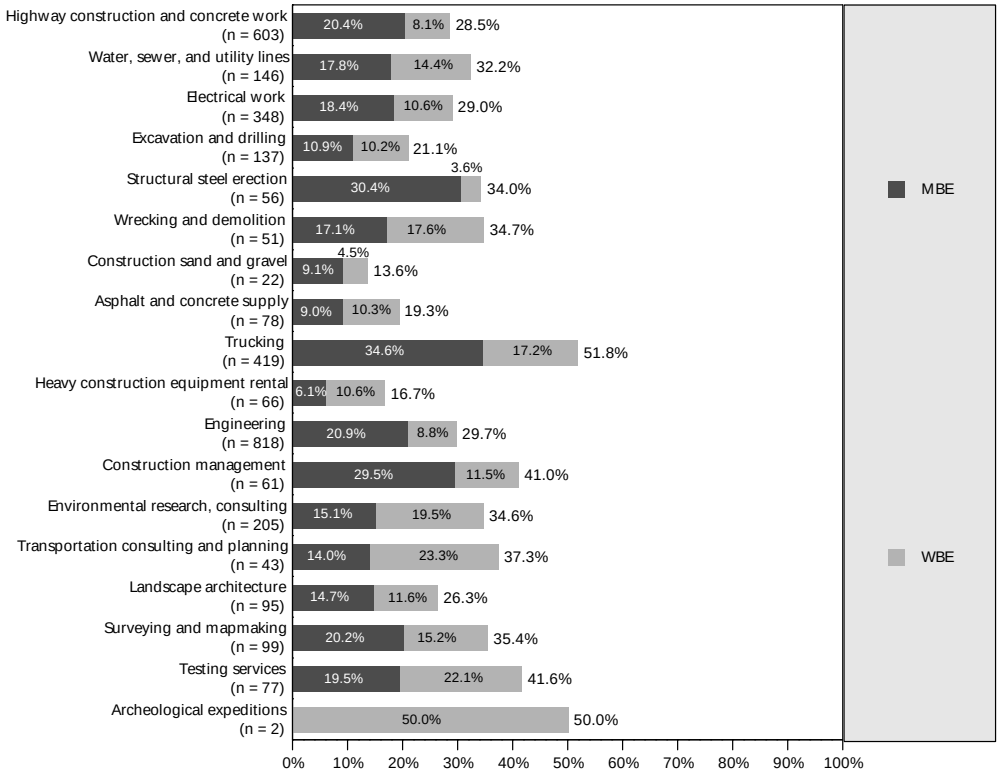
Among transportation construction industry firms reporting qualifications and interest in future Caltrans transportation work as a prime (and had bid or received work as a prime on past transportation work in the public or private sectors), 30.0 percent are MBEs or WBEs. MBEs and WBEs are 33.2 percent of transportation construction industry firms reporting qualifications and interest in future Caltrans work as a subcontractor or supplier.

MBEs and WBEs comprise 29.4 percent of transportation engineering industry firms qualified and interested in future Caltrans work as a prime consultant (and had bid or received work as a prime in the past). Among transportation engineering industry firms qualified and interested in future Caltrans work as a subconsultant, 33.8 percent are MBEs or WBEs.

The study team also examined firms reporting qualifications and interest in local government transportation work (and had bid or submitted price quotes on past transportation work). Compared with results for Caltrans contracts, there are no material differences in the percentage of minority- and woman-owned firms available for local government prime contracts and subcontracts.

Firms available by discipline. BBC grouped different types of work involved in Caltrans construction and engineering contracts into 18 disciplines shown in Figure II-3. Approximately 28.5 percent of highway construction and concrete work firms are minority- or woman-owned. About 29.7 percent of available engineering firms are MBEs or WBEs.

Figure II-3.
MBE/WBEs as a percentage of transportation construction and engineering industry firms available for Caltrans and local government transportation work



Source: BBC Research & Consulting from 2006 Availability Survey.

Dollar-weighted MBE/WBE Availability

BBC developed a statistical model that examined thousands of prime contracts and subcontracts for Caltrans, local government and SR 125 projects from 2002 through 2006. For each contract element, BBC estimated the number of minority- and woman-owned firms and the total number of firms surveyed that were available for that work based on:

- Specialization of work;
- Prime contract versus subcontract role;
- Location of work;
- Size of contract or subcontract element;
- Contract date; and
- Caltrans versus local agency project;

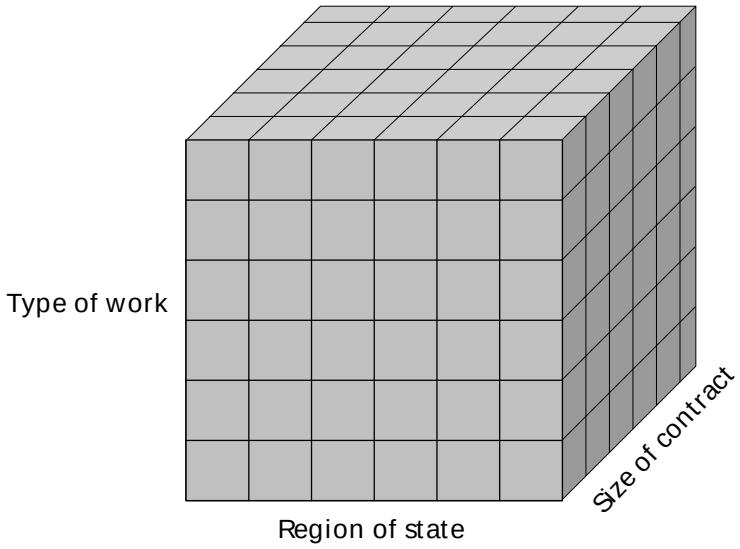
BBC then weighted the relative MBE/WBE availability for each contract element by the dollars for that element. The statistical model indicates that MBEs and WBEs would receive 17.9 percent of

prime contract and subcontract dollars for federally-funded transportation construction and engineering contracts.

Matrix of relative MBE/WBE availability estimates. Figure II-4 shows a matrix of the database developed through this availability analysis. The study team separately tracks available firms for each cell of this matrix. Relative MBE/WBE availability within a cell is determined by dividing the number of MBEs and WBEs in that cell by the total number of firms in the cell.

Figure II-4.
Matrix for the MBE/WBE availability analysis

Source:
BBC Research and Consulting, 2006.



If ABC Company is qualified and interested in performing electrical work as a subcontractor on Caltrans contracts in the San Diego area and performs only small subcontracts, it is shown as an available firm for only that type and size of work as a subcontractor for that geographic area. If a company is qualified and interested in working as both a prime contractor and a subcontractor, and operates across a broad geographic area, then the firm may count as an available business in many different cells of the matrix. The relative MBE/WBE availability for each cell of the matrix is given by the number of MBEs and WBEs in that cell divided by the total number of firms in the cell.

Specialization of work. The USDOT suggests considering the availability of firms based on their ability to perform specific types of work. The example USDOT gives in Tips for Goals Setting in the Disadvantaged Business Enterprise (DBE) Program, which is cited in the *Northern Contracting* decision[1], is as follows: If 90 percent of an agency's contracting dollars is spent on heavy construction and 10 percent on trucking, the agency would

[1] 473 F.3d at 723.

calculate the percentage of heavy construction firms that are MBEs or WBEs and the percentage of trucking firms that are MBEs or WBEs, and weight the first figure by 90 percent and the second figure by 10 percent when calculating overall MBE/WBE availability.[2]

Qualifications and interest in prime contractor versus subcontractor work. Although not a requirement in the Federal DBE Program (and not done by the Illinois Department of Transportation in the information reviewed by the Seventh Circuit in *Northern Contracting*[3]), BBC had information on whether firms reported qualifications and interest in working as a *prime contractor* and as a *subcontractor*. In BBC's statistical model, only firms qualified and interested in prime contracts are counted as available for prime contracts. Firms reporting qualifications and interest in subcontracts are counted as available for these contract components. Many firms reported qualifications and interest in both contract roles, and are counted as available when considering both prime contracts and subcontracts.

Location of work. BBC considered the specific regions within California in which firms work in the statistical model. For example, firms that report they could work in the San Francisco Bay Area, but not other regions of the state, are only considered available for work in that geographic area (Caltrans District 4 contracts and work with local agencies located within District 4). Firms operating throughout the state are considered available for work in all regions.

BBC examined work in 12 different regions that correspond to individual Caltrans districts. The effect of this geographic weighting is that firms working throughout the state figure more prominently in the availability calculation than firms working in just one part of the state. The weighting process is described in more detail later in this section.

Size of contract or subcontract element. In counting available firms, BBC also considered whether a firm had previous work experience on a project of equivalent size (in dollars) to the specified contract or subcontract element. To be counted as available for subcontract elements, a firm must have been awarded or bid on a past contract or subcontract of similar or greater size to that for the contract element. For prime contract elements, a firm

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[2] Tips for Goals Setting in the Disadvantaged Business Enterprise (DBE) Program, Hhttp://osdbu.dot.gov/?TabId=133H.

[3] 473 F.3d at 723.

must have been awarded or bid on a past contract or subcontract of similar or greater size to the entire contract amount.

Contract date. Similarly, to be counted as available for a contract element (both prime contract and subcontract elements), a firm must report an establishment date during or prior to the year in which that prime contract began. Firms that could not recall or did not report an establishment date were presumed to have been founded prior to the study period.

Caltrans versus local agency projects. The study team developed separate availability matrices for firms qualified and interested in Caltrans work and firms qualified and interested in local government transportation work. If a firm reported qualifications and interest in both Caltrans and local government work, it was included in both matrices. The study team separately examined firms qualified and interested in prime contract work (or both prime/sub work) from firms that reported themselves to be qualified and interested in subcontract, supply or trucking work (which also includes some potential prime contractors).

Weighting of individual availability estimates. The final step of the availability analysis is to combine the MBE/WBE availability figures for multiple cells to develop aggregate availability figures across many different types of contracts across regions in the state. In general terms, the study team weights the MBE/WBE availability in a cell by the relative dollars of work in that cell and then sums the weighted availability data to determine an aggregate figure. BBC performed this analysis for each of the prime contract and subcontract elements examined in the study, and then combined results across thousands of contract elements on a dollar-weighted basis. Appendix D (Procedures for Estimating MBE/WBE Availability) explains the collection and analysis of Caltrans contract data necessary to perform this dollar weighting.